

REMARKS

Upon entry of the present Amendment, claims 30, 31, 34 and 37-58 will be pending. Claims 1, 3-15, 18-24, 28 and 29 are withdrawn as directed to non-elected claims. Claims 2, 16, 17, 25-27, 32, 33, 35 and 36 are canceled. Applicant reserves the rights to pursue the withdrawn and/or canceled subject matter in a subsequent application.

The paragraph at page 11, lines 24-26 is amended to correct an error in SEQ ID NO:2. Support for the amended SEQ ID NO:2 can be found throughout the application and, *inter alia*, at page 16, lines 23-26 of the present specification, which teaches that “the EGF-like domain of human NRG β 2 isoform (rhNR β 2), residues 177-237” can be used. The correct amino acid sequence of residues 177-237 of rhNR β 2 is shown in U.S. Patent No. 5,367,060 (Exhibit A) at columns 87-88. The three residues that are present in the correct sequence but were missing in the previously submitted SEQ ID NO:2 are Glu-Lys (186-187) and Gln (237). These three residues are now added in the amended SEQ ID NO:2. Applicant will submit an amended SEQ ID NO:2 (both a paper copy and a computer readable copy) once the present amendment is accepted by the Examiner.

Support for amended claims 30 and 57 for reciting “a neuregulin protein, comprising an EGF-like domain, or a neuregulin protein comprising an EGF-like domain and an additional amino acid sequence from a wild-type neuregulin protein” can be found throughout the application and, *inter alia*, at page 11, lines 17-19 of the present specification, and in the original claims, *e.g.*, claim 1. As explained in the February 3, 2004 Amendment, the EGF-like domain is well conserved in different types of neuregulin (*See e.g.*, Exhibit A of the February 3, 2004 Amendment, Holmes et al., *Science*, 256:1205-1210 (1992), at page 1206, Figure 2B showing the conserved region among HRG- α , HRG- β 1, HRG- β 2 and HRG- β 3. Similarly, the function of the EGF-like domain is also well known. (*See e.g.*, Exhibit B the February 3, 2004 Amendment, Chang et al., *Nature*, 387:509-512 (1997) at page 510, right column stating that the EGF-like domain neuregulins is sufficient for receptor binding and for stimulating cellular responses).

Support for amended claim 31 for reciting “the neuregulin protein carries out its activity via binding with an ErbB3 or an ErbB4 receptor” can be found throughout the application and, *inter alia*, at page 5, lines 19-22 of the present specification, and in the original claims, *e.g.*, claim 12.

Claims 34, 37 and 44-47 are amended to conform with the amendment of claim 30.

Support for new claim 58 for reciting “the neuregulin protein comprises an amino acid sequence set forth in SEQ ID NO:2” can be found throughout the application and, *inter alia*, at page 16, lines 23-26 of the present specification.

The above-described amendments do not introduce any new matter into the present application.

The Examiner alleges that the reply filed on June 7, 2004 is not fully responsive to the prior Office Action mailed October 3, 2003. According to the Examiner:

The elected invention was drawn to a method of inducing remodeling of cardiac muscle...using neuregulin. Applicant's claims remain non-responsive, for the reasons of record set forth in the previous Office Action; in particular, the claims drawn to any functional fragment of a nucleic acid encoding any neuregulin protein, or a functional fragment, thereof. Therefore, the response is still held to be inadvertently non-responsive.

CONCLUSION

It is respectfully submitted that the above rejection is overcome by the amendments of claims 30, 34, 37, 44-47 and 57. Applicant also respectfully submits that the presently pending claims 30, 31, 34 and 37-58 are in form of allowance. Early allowance of the pending claims are earnestly requested

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 524012000200. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Dated: December 9, 2004

Respectfully submitted,

By 

Peng Chen

Registration No.: 43,543
MORRISON & FOERSTER LLP
3811 Valley Centre Drive, Suite 500
San Diego, California 92130
(858) 720-5117